Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A system for providing peritoneal dialysis to a patient, the system comprising:

a catheter having an inflow lumen and an outflow lumen in communication with the patient's peritoneal cavity;

a fluid circuit in fluid communication with the catheter, the fluid circuit consisting of:

~~a fluid loop defining only~~ a single fluid loop only, the fluid loop configured to circulate a therapy fluid into, through and out of a peritoneal cavity of the patient;

a supply of a dialysate coupled to the fluid circuit;

a cycler that pumps the dialysate into the fluid circuit at a feed rate and circulates the dialysate at a circulation rate along the fluid loop to remove a therapeutic effective amount of solutes and excess water from the patient; and

a discharge fluid path coupled to the fluid loop through which the therapy fluid is drained from the fluid circuit at a discharge rate that is less than the circulation rate allowing the therapy fluid to be circulated a plurality of times along the fluid loop prior to discharge.

2. (original) The system of Claim 1 wherein the feed rate and the discharge rate are less than the circulation rate.

3. (original) The system of Claim 2 wherein the feed rate and the discharge rate are maintained at an approximately equal rate that is about one half of the circulation rate allowing the dialysate to circulate about two times along the fluid loop.

4. (original) The system of Claim 1 wherein the feed rate and the discharge rate are maintained at an approximately equal rate that is about one third of the circulation rate such that the dialysate is capable of circulating about three times along the fluid loop.

5. (original) The system of Claim 1 wherein the circulation rate is about 300 ml/min or less.

6. (original) The system of Claim 1 wherein the supply of dialysate contains about 25 liters or less of dialysate.

7. (original) The system of Claim 1 wherein the dialysate is continuously fed, circulated and drained over a treatment period of about 8 hours or less.

8. (original) The system of Claim 1 wherein an initial volume of the dialysate is infused into the peritoneal cavity of the patient and an additional volume of the dialysate is subsequently and continuously fed into the fluid circuit during treatment.

9. (original) The system of Claim 8 wherein the initial volume of the dialysate is circulated along the fluid loop during an initial treatment period without the continuous feed of the additional volume of the dialysate into the fluid loop and the continuous discharge of therapy fluid from the fluid loop.

10. (original) The system of Claim 1 further comprising a chamber in fluid communication with the fluid loop such that the fluid loop can accommodate a variable increase in the therapy fluid during treatment.

11. (original) The system of Claim 10 wherein the variable increase in therapy fluid is due to an addition of ultrafiltrate to the fluid loop as the dialysate dialyzes the patient.

12. (original) The system of Claim 1 wherein the feed rate and the discharge rate are alternately varied to create tidal CFPD.

13. (previously presented) A system for providing peritoneal dialysis to a patient, the system comprising:

a catheter having an inflow lumen and an outflow lumen in communication with the patient's peritoneal cavity;

a fluid circuit in fluid communication with the catheter, the fluid circuit consisting of:

a fluid loop configured to circulate a therapy fluid into, through and out of a peritoneal cavity of the patient via only a single loop of the fluid loop ;

a supply of a dialysate;

a chamber coupled to the fluid loop through which the dialysate can be fed at a feed rate into the fluid loop ;

a cycler that pumps the dialysate into the fluid loop and circulates the dialysate along the fluid loop at a circulation rate to remove a therapeutic effective amount of solutes and excess water from the patient; and

a discharge fluid path coupled to the fluid loop through which the therapy fluid is drained from the fluid circuit at a discharge rate effective to cause the therapy fluid to be circulated a plurality of times along the fluid loop prior to discharge.

14. (original) The system of Claim 13 wherein the supply of dialysate contains about 25 liters or less of dialysate.

15. (original) The system of Claim 14 wherein the dialysate is contained in four separate supply containers each having a capacity of about 6 liters or less.

16. (original) The system of Claim 13 wherein the circulation rate is about 300 ml/min or less.

17. (original) The system of Claim 13 wherein the chamber is capable of mixing and heating the dialysate.

18. (original) The system of Claim 13 wherein the chamber is coupled to the fluid loop via a fluid supply path.

19. (original) The system of Claim 18 wherein the feed rate and the discharge rate are maintained at an approximately equal rate that is less than the circulation rate such that the dialysate is capable of circulating the plurality of times along the fluid loop.

20. (original) The system of Claim 13 wherein the chamber is directly coupled to the fluid loop.

21. (original) The system of Claim 20 wherein the dialysate is circulated along the fluid loop a number of times that is approximately equal to the feed rate divided by a difference between the circulation rate and the discharge rate.

22. (original) The system of Claim 13 wherein the dialysate is continuously fed into, circulated within and drained from the fluid loop over a treatment period of about 8 hours or less.

23. (original) The system of Claim 13 wherein the chamber can be adapted to accommodate a variable increase in therapy fluid during treatment.

24. (previously presented) A system for providing peritoneal dialysis to a patient, the system comprising:

a catheter having an inflow lumen and outflow lumen in communication with the patient's peritoneal cavity;

a fluid circuit in fluid communication with the catheter thereby defining only a single fluid loop capable of circulating a therapy fluid into, through and out of the peritoneal cavity, the fluid circuit includes:

a supply of a dialysate coupled to the fluid loop;

a cycler that pumps the dialysate into the fluid loop at a feed rate and circulates the dialysate along the fluid loop at a circulation rate to remove a therapeutic effective amount of solutes and excess water from the patient;

a cleaning device coupled to the fluid loop via a cleaning fluid path wherein the therapy fluid including the dialysate can be fed into the cleaning fluid path and cleaned at a cleaning rate prior to reintroduction into the fluid loop; and

a discharge fluid path coupled to the fluid loop through which the therapy fluid is drained at a discharge rate effective to circulate the therapy fluid a plurality of times along the fluid loop prior to discharge.

25. (original) The system of Claim 24 wherein the fluid loop is coupled to the supply of dialysate, the cleaning fluid path and the discharge fluid path via a cycler.

26. (original) The system of Claim 25 wherein the cycler includes a fluid circuit coupled to a pumping mechanism and a plurality of valves such that the cycler is capable of automatically controlling the flow of dialysate into and out the fluid loop during treatment.

27. (original) The system of Claim 24 wherein the cleaning device contains a sorbent material capable of non-selective removal of solutes from the dialysate prior to reuse.

28. (original) The system of Claim 27 wherein the sorbent material is selected from the group consisting of carbon, activated charcoal and combinations thereof.

29. (original) The system of Claim 24 wherein the supply of dialysate contains about 25 liters or less of dialysate.

30. (original) The system of Claim 24 further comprising a chamber coupled to the fluid loop that is capable of accommodating for a variable increase in therapy fluid volume during treatment.

Claims 31 to 65 (canceled).